

Notice of Allowability

Application No.

10/524,422

Examiner

Chih-Cheng Glen Kao

Applicant(s)

KOPPE ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/19/06.
2. ☒ The allowed claim(s) is/are 1-5.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted:
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David Barnes on June 9, 2006.

2. The application has been amended as follows:

In the specification, on page 1, line 5; delete “, such as being furthermore recited in the preamble of Claim 1”.

In the specification, on page 1, lines 26-27; delete “Now therefore, according to one of its aspects the invention is characterized according to the characterizing part of Claim 1.”

In the specification, on page 2, line 15; delete “as claimed in Claim 1”.

In the specification, on page 2, line 17; delete “as claimed in Claim 1”.

In the specification, on page 2, line 17; delete “in dependent Claims”.

In claim 1, line 2; replace “constructions” with - -reconstructions- -.

In claim 1, line 8; insert - -characterized by- - after “being”.

In claim 1, line 10; delete “such”.

In claim 1, line 11; delete “so”.

In claim 1, lines 13-14; delete “in said 3D-volume reconstruction”.

In claim 1, line 14; insert - -, in said 3D-volume reconstruction,- - after “segmenting”.

In claim 1, line 16, in the phrase “the shadow(s)”; replace “the” with - -a- -.

In claim 1, line 17, in the phrase “the borders”; delete “the”.

In claim 1, line 18; insert a hyphen between “high” and “density”.

In claim 1, line 18; delete “back-”.

In claim 1, line 20, in the phrase “said reconstructed”; replace “said” with - -the- -.

In claim 1, line 27, in the phrase “said suppressed”; replace “said” with - -the- -.

In claim 3, line 2; insert - -furthermore- - before “comprising”.

In claim 3, line 4; replace “them” with

- -said one or more high-density objects and said natural tissue- -.

In claim 4, line 2; replace “constructions” with - -reconstructions- -.

In claim 4, line 3; replace “bodies comprise” with - -body comprises- -.

In claim 4, line 8; delete “such”.

In claim 4, line 11; insert a comma before “segmenting”.

In claim 4, lines 12-13, in the phrase “the shadow(s)”; replace “the” with - -a- -.

In claim 4, line 14; replace “thus” with - -whilst- -.

In claim 4, line 14, in the phrase “the borders”; delete “the”.

In claim 4, line 14; insert a hyphen between “high” and “density”.

In claim 4, line 15; delete “back-”.

In claim 4, line 16, in the phrase “said reconstructed”; replace “said” with - -the- -.

In claim 4, line 22, in the phrase “said suppressed”; replace “said” with - -the- -.

In claim 5, line 3; replace “constructions” with - -reconstructions- -.

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In claim 5, line 9; insert - -further- - before “comprising”.

In claim 5, line 10; delete “such”.

In claim 5, line 13; insert a comma before “segmenting”.

In claim 5, lines 14-15, in the phrase “the shadow(s)”; replace “the” with - -a- -.

In claim 5, line 15; replace “ore” with - -or- -.

In claim 5, line 16; replace “thus” with - -whilst- -.

In claim 5, line 16, in the phrase “the borders”; delete “the”.

In claim 5, line 16; insert a hyphen between “high” and “density”.

In claim 5, line 17; delete “back-”.

In claim 5, line 18, in the phrase “said reconstructed”; replace “said” with - -the- -.

In claim 5, line 23, in the phrase “said suppressed”; replace “said” with - -the- -.

Reasons for Allowance

3. Claims 1-5 are allowed. The following is an examiner’s statement of reasons for allowance.

4. Regarding claim 1, prior art fails to disclose or fairly suggest an apparatus for generating images of a subject on the basis of 3D-reconsturctions from 3D-XRAY or 3D-Comptuer Tomography measurements including a segmenting facility fed by a back-projecting facility for segmenting, in a 3D-volume reconstruction, one or more high-density objects by a thresholding procedure and a forward projecting facility fed by said segmenting facility for executing a forward projection of a shadow(s) of the segmented one or more high-density objects onto a

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ramp-filtered projection, whilst marking borders of said one or more high-density objects in the ramp-filtered projections, in combination with all the limitations in the claim. Claims 2 and 3 are allowed by virtue of their dependency.

5. Regarding claims 4 and 5, prior art fails to disclose or fairly suggest a method or computer readable medium containing instructions for controlling a computer system to perform the steps of a method of generating images of a subject on the basis of 3D-reconstructions from 3D-XRAY or 3D-Comptuer Tomography measurements including the step of in a 3D-volume reconstruction, segmenting one or more high-density objects by a thresholding procedure and executing a forward projection of a shadow(s) of the segmented one or more high-density objects onto a ramp-filtered projection, whilst marking borders of said one or more high-density objects in the ramp-filtered projections, in combination with all the limitations in each respective claim.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6721387 and 2004/0146136 disclose a suppressing facility (fig. 4, #30, and fig. 2, #244, respectively).

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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